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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/924,116	08/08/2001	Tetsuya Yamamura	P 281146 D987-CON	1705

909 7590 07/01/2002

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EXAMINER

BERMAN, SUSAN W

ART UNIT	PAPER NUMBER
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1711

DATE MAILED: 07/01/2002

9

Please find below and/or attached an Office communication concerning this application or proceeding.

MF-9

Office Action Summary

Application No.

09/924,116

Applicant(s)

YAMAMURA ET AL.

Examiner

Susan W Berman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10-25-01 & 04-19-02.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,19 and 21-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,19 and 21-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 09/252,239.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>8</u> . | 6) <input type="checkbox"/> Other: |

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 2, 19, and 21-32 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. That component (E) is a polyether polyol having three or more OH groups is critical or essential to the practice of the invention is disclosed, but not included in the claim(s), therefore the claims, as written, are not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976). See page 20, line 33, to page 21, line 9.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 19, 21-34, and 38-42 are rejected under 35 U.S.C. 102(b) as being anticipated by Steinmann et al (5,476,748 or CA 2,211,628). Steinmann et al disclose compositions comprising each of the components recited in instant claim 1 in Example 14 of US '748 and in Examples 1-8 of CA '628. The disclosed compositions comprises 40-80 wt. % epoxy, from 5-40 wt. % aromatic diacrylate, 0-15 wt. % poly(meth)acrylate and 5-40 wt. % polyol. Those compositions disclosed by Steinmann et al containing weight percents of components within the ranges set forth in the instant claims are considered to anticipate the instant claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 33, 34 and 37-42 are rejected under 35 U.S.C. 102(a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over EP 0 848 292. EP '292 teaches compositions comprising components A-F, wherein (B) corresponds to (A), (C) corresponds to (B), (D) corresponds to (C), (E) corresponds to (D) and (F) corresponds to (E) in the instant claims. The ethylenically unsaturated monomers specifically disclosed include (meth)acrylates of dipentaerythritol (page 6, lines 50-53). EP '292 teaches using 30-80 wt. % epoxy (B), 5-30 wt. % (meth)acrylate monomers and 5-30wt. % polyol.

Those compositions disclosed by EP '292 wherein component (D) comprises dipentaerythritol penta(meth)acrylate anticipate the instantly claimed compositions. Alternatively, It would have been obvious to one skilled in the art to select dipentaerythritol penta(meth)acrylate as the polyfunctional (meth)acrylate from the monomers taught by EP '292, in the absence of evidence to the contrary.

Claims 33-42 are rejected under 35 U.S.C. 102(a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over WO 97/38354. WO '354 teaches compositions comprising components A-E, corresponding to components (A)-(E) in the instant claims. The ethylenically unsaturated monomers specifically disclosed include (meth)acrylates of dipentaerythritol (page 13, lines 16-21). WO '354 teaches using 30-80 wt. % epoxy (B), 5-30 wt. % (meth)acrylate monomers and 5-30wt. % polyol and

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also teaches that at least 60% by weight of the ethylenically unsaturated monomer must have three or more ethylenically unsaturated groups.

Those compositions disclosed by WO '354 wherein component (C) comprises dipentaerythritol penta(meth)acrylate anticipate the instantly claimed compositions. Alternatively, It would have been obvious to one skilled in the art to select dipentaerythritol penta(meth)acrylate as the polyfunctional (meth)acrylate from the monomers taught by WO '354, in the absence of evidence to the contrary.

Claims 2, 22, 23, 27, 30-32, 38 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Steinmann et al (5,476,748 or CA 2,211,628). Steinmann et al disclose compositions comprising each of the components recited in instant claim 1 in Example 14. The disclosed compositions comprises 40-80 wt. % epoxy, from 5-40 wt. % aromatic diacrylate, 0-15 wt. % poly(meth)acrylate and 5-40 wt. % polyol. It would have been obvious to one skilled in the art to determine optimum weight percents of components for obtaining desired properties for use in stereolithography to produce desirable three-dimensional objects. It is well known in the art that (meth)acrylate functional monomers are useful as reactive diluents for obtaining a desired viscosity and are useful crosslinking monomers for obtaining a desired degree of crosslinking.

Claims 1, 2, and 19-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 0 848 292. EP '292 teaches compositions comprising components A-F, wherein (B) corresponds to (A), (C) corresponds to (B), (D) corresponds to (C), (E) corresponds to (D) and (F) corresponds to (E) in the instant claims. The ethylenically unsaturated monomers specifically disclosed include (meth)acrylates of dipentaerythritol and BPA diglycidylether di(meth)acrylate (page 6, lines 48-53). EP '292 teaches using 30-80 wt. % epoxy (B), 5-30 wt. % (meth)acrylate monomers and 5-30wt. % polyol.

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It would have been obvious to one skilled in the art to provide compositions as disclosed by EP '292 comprising a combination of two or more ethylenically unsaturated monomers including the monomers set forth in the instant claims, in the absence of evidence to the contrary. The reason is that EP '292 teaches that these kinds of monomers are useful in the disclosed compositions. It would have been obvious to one skilled in the art to determine optimum weight percents of components for obtaining desired properties for use in stereolithography to produce desirable three-dimensional objects. It is well known in the art that (meth)acrylate functional monomers are useful as reactive diluents for obtaining a desired viscosity and are useful crosslinking monomers for obtaining a desired degree of crosslinking.

Claims 1, 2, and 19-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 97/38354. WO '354 teaches compositions comprising components A-E, corresponding to components (A)-(E) in the instant claims. The ethylenically unsaturated monomers specifically disclosed include (meth)acrylates of dipentaerythritol and BPA diglycidylether di(meth)acrylate (page 13, lines 12,13 and 16-21). WO '354 teaches using 30-80 wt. % epoxy (B), 5-30 wt. % (meth)acrylate monomers and 5-30wt. % polyol. It would have been obvious to one skilled in the art to provide compositions as disclosed by WO '354 comprising a combination of two or more ethylenically unsaturated monomers including the kinds of monomers set forth in the instant claims, in the absence of evidence to the contrary. The reason is that WO '354 teaches that these kinds of monomers are useful in the disclosed compositions and uses them in the Examples. It would have been obvious to one skilled in the art to select dipentaerythritol pentaacrylate as the polyfunctional acrylate since it is a homolog of the dipentaerythritol hexaacrylate used in the Examples. It would have been obvious to one skilled in the art to determine optimum weight percents of components for obtaining desired properties for use in stereolithography to produce desirable three-dimensional objects. It is well known in the art that (meth)acrylate functional monomers are useful

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as reactive diluents for obtaining a desired viscosity and are useful crosslinking monomers for obtaining a desired degree of crosslinking.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1, 2, 19, 21-42 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-17 of U.S. Patent No. 6,287,745. Although the conflicting claims are not identical, they are not patentably distinct from each other because each claimed composition comprises a compound having alicyclic epoxy groups, a cationic photoinitiator, a radical photoinitiator and a polyol component.

Claims 1, 2, 19, 21-42 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-15 of U.S. Patent No. 5,981,616. Although the conflicting claims are not identical, they are not patentably distinct from each other because each claimed composition comprises a compound having alicyclic epoxy groups, a cationic photoinitiator, a radical photoinitiator and a polyol component.

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Conclusion

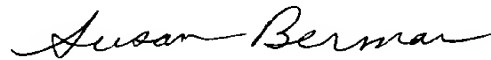
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan W Berman whose telephone number is 703 308 0040. The examiner can normally be reached on M-F 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 703 308 2462.

The fax phone numbers for the organization where this application or proceeding is assigned are 703 872 9310 for regular communications and 703 872 9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 0661.

SB
6/29/02



Susan W. Berman
Primary Examiner
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